



Contract #

069101

STATE OF UTAH CONTRACT

1. CONTRACTING PARTIES: This contract is between the following agency of the State of Utah:
Department: UTAH DEPARTMENT OF TRANSPORTATION Agency Code: 810 Division: UDOT-CENTRAL SHOPS, referred to as (STATE), and the following CONTRACTOR:

Semi Service Inc

Name

1082 South 300 West

Address

Salt Lake City

Utah

84101

City

State

Zip

LEGAL STATUS OF CONTRACTOR

- ☐ Sole Proprietor
☐ Non-Profit Corporation
☒ For-Profit Corporation
☐ Partnership
☐ Government Agency

Contact Person Michael Anderson Phone #801-521-0360 Email manderson@semiservice.com
Federal Tax ID# 87-0297158 Vendor #09026F A Commodity Code #63580000000

2. GENERAL PURPOSE OF CONTRACT: The general purpose of this contract is to provide:
Liquid Anti-Icer Applicator - Skid Mounted
3. PROCUREMENT: This contract is entered into as a result of the procurement process on RX# 810 66300000004, FY2006, Bid#GL6005.
4. CONTRACT PERIOD: Effective date: 08/10/05 Termination date: 08/09/07 unless terminated early or extended in accordance with the terms and conditions of this contract. Renewal options (if any): Two one-year Renewals
5. CONTRACT COSTS: Requirements Contract for specified units to be sold at \$19,890.60 each.
6. ATTACHMENT A: Division of Purchasing's Standard Terms and Conditions
ATTACHMENT B: Specifications and Conditions
- Any conflicts between Attachment A and other Attachments will be resolved in favor of Attachment A.
7. DOCUMENTS INCORPORATED INTO THIS CONTRACT BY REFERENCE BUT NOT ATTACHED:
- All other governmental laws, regulations, or actions applicable to the goods and/or services authorized by this contract.
 - Utah State Procurement Code, Procurement Rules, and CONTRACTOR'S response to Bid #GL6005 dated 08/03/05.

IN WITNESS WHEREOF, the parties sign and cause this contract to be executed.

CONTRACTOR

STATE

Contractor's Signature

Date

Agency's Signature: Kelvin Thacker

Date

Type or Print Name and Title

Director, Division of Purchasing

Date

CONTRACT RECEIVED AND
PROCESSED BY

Director, Division of Finance

FEB 21 2006

Paul Rottmann

801-965-4078

801-965-4818

prottmann@utah.gov

Agency Contact Person

Telephone Number

Fax Number

Email

(Revision 09/30/2003)

REC'D FEB 27 2006

ATTACHMENT A: STATE OF UTAH STANDARD TERMS AND CONDITIONS

1. **AUTHORITY:** Provisions of this contract are pursuant to the authority set forth in 63-56, Utah Code Annotated, 1953, as amended, Utah State Procurement Rules (Utah Administrative Code Section R33), and related statutes which permit the State to purchase certain specified services, and other approved purchases for the State.
2. **CONTRACT JURISDICTION, CHOICE OF LAW, AND VENUE:** The provisions of this contract shall be governed by the laws of the State of Utah. The parties will submit to the jurisdiction of the courts of the State of Utah for any dispute arising out of this Contract or the breach thereof. Venue shall be in Salt Lake City, in the Third Judicial District Court for Salt Lake County.
3. **LAWS AND REGULATIONS:** Any and all supplies, services and equipment furnished will comply fully with all applicable Federal and State laws and regulations.
4. **RECORDS ADMINISTRATION:** The Contractor shall maintain, or supervise the maintenance of all records necessary to properly account for the payments made to the Contractor for costs authorized by this contract. These records shall be retained by the Contractor for at least four years after the contract terminates, or until all audits initiated within the four years, have been completed, whichever is later. The Contractor agrees to allow State and Federal auditors, and State Agency Staff, access to all the records to this contract, for audit and inspection, and monitoring of services. Such access will be during normal business hours, or by appointment.
5. **CONFLICT OF INTEREST:** Contractor represents that none of its officers or employees are officers or employees of the State of Utah, unless disclosure has been made in accordance with 67-16-8, Utah Code Annotated, 1953, as amended.
6. **CONTRACTOR, AN INDEPENDENT CONTRACTOR:** The Contractor shall be an independent contractor, and as such, shall have no authorization, express or implied, to bind the State to any agreements, settlements, liability, or understanding whatsoever, and agrees not to perform any acts as agent for the State, except as herein expressly set forth. Compensation stated herein shall be the total amount payable to the Contractor by the State. The Contractor shall be responsible for the payment of all income tax and social security amounts due as a result of payments received from the State for these contract services. Persons employed by the State and acting under the direction of the State shall not be deemed to be employees or agents of the Contractor.
7. **INDEMNITY CLAUSE:** The Contractor agrees to indemnify, save harmless, and release the State OF UTAH, and all its officers, agents, volunteers, and employees from and against any and all loss, damages, injury, liability, suits, and proceedings arising out of the performance of this contract which are caused in whole or in part by the negligence of the Contractor's officers, agents, volunteers, or employees, but not for claims arising from the State's sole negligence.
8. **EQUAL OPPORTUNITY CLAUSE:** The Contractor agrees to abide by the provisions of Title VI and VII of the Civil Rights Act of 1964 (42USC 2000e) which prohibits discrimination against any employee or applicant for employment or any applicant or recipient of services, on the basis of race, religion, color, or national origin; and further agrees to abide by Executive Order No. 11246, as amended, which prohibits discrimination on the basis of sex; 45 CFR 90 which prohibits discrimination on the basis of age; and Section 504 of the Rehabilitation Act of 1973, or the Americans with Disabilities Act of 1990 which prohibits discrimination on the basis of disabilities. Also, the Contractor agrees to abide by Utah's Executive Order, dated March 17, 1993, which prohibits sexual harassment in the work place.
9. **SEPARABILITY CLAUSE:** A declaration by any court, or any other binding legal source, that any provision of this contract is illegal and void shall not affect the legality and enforceability of any other provision of this contract, unless the provisions are mutually dependent.
10. **RENEGOTIATION OR MODIFICATIONS:** This contract may be amended, modified, or supplemented only by written amendment to the contract, executed by the same persons or by persons holding the same position as persons who signed the original agreement on behalf of the parties hereto, and attached to the original signed copy of the contract.
11. **DEBARMENT:** The Contractor certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract), by any governmental department or agency. If the Contractor cannot certify this statement, attach a written explanation for review by the State. The Contractor must notify the State Director of Purchasing within 30 days if debarred by any governmental entity during the Contract period.
12. **TERMINATION:** Unless otherwise stated in the Special Terms and Conditions, this contract may be terminated, with cause by either party, in advance of the specified termination date, upon written notice being given by the other party. The party in violation will be given ten (10) working days after notification to correct and cease the violations, after which the contract may be terminated for cause. This contract may be terminated without cause, in advance of the specified expiration date, by either party, upon 90 days prior written notice being given the other party. On termination of this contract, all accounts and payments will be processed according to the financial arrangements set forth herein for approved services rendered to date of termination.
13. **NONAPPROPRIATION OF FUNDS:** The Contractor acknowledges that the State cannot contract for the payment of funds not yet appropriated by the Utah State Legislature. If funding to the State is reduced due to an order by the Legislature or the Governor, or is required by State law, or if federal funding (when applicable) is not provided, the State may terminate this contract or proportionately reduce the services and purchase obligations and the amount due from the State upon 30 days written notice. In the case that funds are not appropriated or are reduced, the State will reimburse Contractor for products delivered or services performed through the date of cancellation or reduction, and the State will not be liable for any future commitments, penalties, or liquidated damages.
14. **SALES TAX EXEMPTION:** The State of Utah's sales and use tax exemption number is E33399. The tangible personal property or services being purchased are being paid from State funds and used in the exercise of that entity's essential functions. If the items being purchased are construction materials, they will be converted into real property by employees of this government entity, unless otherwise stated in the contract.
15. **WARRANTY:** The contractor agrees to warrant and assume responsibility for all products (including hardware, firmware, and/or software products) that it licenses, contracts, or sells to the State of Utah under this contract for a period of one year, unless otherwise specified and mutually agreed upon elsewhere in this contract. The contractor (seller) acknowledges that all warranties granted to the buyer by the Uniform Commercial Code of the State of Utah apply to this contract. Product liability disclaimers and/or warranty disclaimers from the seller are not applicable to this contract unless otherwise specified and mutually agreed upon elsewhere in this contract. In general, the contractor warrants that: (1) the product will do what the salesperson said it would do, (2) the product will live up to all specific claims that the manufacturer makes in their advertisements, (3) the product will be suitable for the ordinary purposes for which such product is used, (4) the product will be suitable

for any special purposes that the State has relied on the contractor's skill or judgment to consider when it advised the State about the product, (5) the product has been properly designed and manufactured, and (6) the product is free of significant defects or unusual problems about which the State has not been warned. Remedies available to the State include the following: The contractor will repair or replace (at no charge to the State) the product whose nonconformance is discovered and made known to the contractor in writing. If the repaired and/or replaced product proves to be inadequate, or fails of its essential purpose, the contractor will refund the full amount of any payments that have been made. Nothing in this warranty will be construed to limit any rights or remedies the State of Utah may otherwise have under this contract.

16. **PUBLIC INFORMATION:** Contractor agrees that the contract will be a public document, and may be available for distribution. Contractor gives the State express permission to make copies of the contract and/or of the response to the solicitation in accordance with the State of Utah Government Records Access and Management Act. The permission to make copies as noted will take precedence over any statements of confidentiality, proprietary information, copyright information, or similar notation.
17. **DELIVERY:** Unless otherwise specified in this contract, all deliveries will be F.O.B. destination with all transportation and handling charges paid by the Contractor. Responsibility and liability for loss or damage will remain with Contractor until final inspection and acceptance when responsibility will pass to the State except as to latent defects, fraud and Contractor's warranty obligations.
18. **ORDERING AND INVOICING:** All orders will be shipped promptly in accordance with the delivery schedule. The Contractor will promptly submit invoices (within 30 days of shipment or delivery of services) to the State. The State contract number and/or the agency purchase order number shall be listed on all invoices, freight tickets, and correspondence relating to the contract order. The prices paid by the State will be those prices listed in the contract. The State has the right to adjust or return any invoice reflecting incorrect pricing.
19. **PAYMENT:** Payments are normally made within 30 days following the date the order is delivered or the date a correct invoice is received, whichever is later. All payments to the Contractor will be remitted by mail unless paid by the State of Utah's Purchasing Card (major credit card).
20. **PATENTS, COPYRIGHTS, ETC.:** The Contractor will release, indemnify and hold the State, its officers, agents and employees harmless from liability of any kind or nature, including the Contractor's use of any copyrighted or un-copyrighted composition, secret process, patented or un-patented invention, article or appliance furnished or used in the performance of this contract.
21. **ASSIGNMENT/SUBCONTRACT:** Contractor will not assign, sell, transfer, subcontract or sublet rights, or delegate responsibilities under this contract, in whole or in part, without the prior written approval of the State.
22. **DEFAULT AND REMEDIES:** Any of the following events will constitute cause for the State to declare Contractor in default of the contract:
1. Nonperformance of contractual requirements; 2. A material breach of any term or condition of this contract. The State will issue a written notice of default providing a ten (10) day period in which Contractor will have an opportunity to cure. Time allowed for cure will not diminish or eliminate Contractor's liability for damages. If the default remains, after Contractor has been provided the opportunity to cure, the State may do one or more of the following: 1. Exercise any remedy provided by law; 2. Terminate this contract and any related contracts or portions thereof; 3. Impose liquidated damages, if liquidated damages are listed in the contract; 4. Suspend Contractor from receiving future solicitations.
23. **FORCE MAJEURE:** Neither party to this contract will be held responsible for delay or default caused by fire, riot, acts of God and/or war which is beyond that party's reasonable control. The State may terminate this contract after determining such delay or default will reasonably prevent successful performance of the contract.
24. **PROCUREMENT ETHICS:** The Contractor understands that a person who is interested in any way in the sale of any supplies, services, construction, or insurance to the State of Utah is violating the law if the person gives or offers to give any compensation, gratuity, contribution, loan or reward, or any promise thereof to any person acting as a procurement officer on behalf of the State, or who in any official capacity participates in the procurement of such supplies, services, construction, or insurance, whether it is given for their own use or for the use or benefit of any other person or organization (63-56-1002, Utah Code Annotated, 1953, as amended).
25. **CONFLICT OF TERMS:** Contractor Terms and Conditions that apply must be in writing and attached to the contract. No other Terms and Conditions will apply to this contract including terms listed or referenced on a Contractor's website, terms listed in a Contractor quotation/sales order, etc. In the event of any conflict in the contract terms and conditions, the order of precedence shall be: 1. State Standard Terms and Conditions; 2. State Additional Terms and Conditions; 3. Contractor Terms and Conditions.

(Revision date: July 5, 2005)

STATE OF UTAH: Department of Transportation (UDOT)

LIQUID ANTI-ICER APPLICATOR, SKID MOUNTED: Two (2) year agency, requirements contract with two (2) one-year renewal options.

PART I: GENERAL CLAUSES AND CONDITIONS

1. The equipment furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, and shall be of quality workmanship and material. The supplier represents that all equipment offered under this specification is new at time of delivery. DISCONTINUED, DEMONSTRATOR OR DEVELOPMENTAL MODELS ARE NOT ACCEPTABLE.
2. The units shall be completely assembled and adjusted. All equipment, including standard and supplemental equipment, shall be installed, and the units shall be serviced and ready for continuous operation, including all fluids levels, fuel, oil etc. To be completely detailed when delivered.
3. All parts not specifically mentioned, but are necessary for the units to be complete for operation, or which are normally furnished as standard equipment, shall be furnished by the supplier. All parts shall conform in strength, quality and workmanship to the accepted standards of the industry.
4. The units provided shall meet or exceed all Federal and State of Utah safety, health, lighting and noise regulations and standards in effect, and which are applicable to equipment furnished, at the time of acceptance.
5. It is the intent of STATE to purchase goods, equipment and services having the least adverse environmental impact, within the constraints of statutory purchasing requirements, departmental need, availability, and sound economical considerations. Suggested changes and environmental enhancements for possible inclusion in future revisions of this specification are encouraged.
6. STATE encourages all manufacturers to comply, voluntarily, with the Society of Automotive Engineers (SAE) recommended practices.
7. Measurements will be given in the English system.
8. Contractor shall include provisions for pre-build conference at UDOT headquarters (4501 So 4501 W S.L.C, Utah) and Pre-delivery inspection for two (2) personnel at the factory, when unit is 100 percent complete. The costs of travel arrangements and accommodations to be included in bid price.

PART II: GENERAL SPECIFICATIONS

1. SCOPE:
The Liquid Anti-icer Applicators are to be new units of current model, and are to meet the following minimum specifications, but are not limited as to additional features furnished by the manufacturer.
2. Variation in construction details may be allowed if these variations result in the same or greater basic strength and durability than can be accomplished, using these specifications herein. Any variations in construction details must be approved by the Utah Department of Transportation, prior to bid opening.
3. Any brand or make of the Liquid Anti-icer Applicator proposed for this order, must have been manufactured before, and have a record of successful use. The Liquid Anti-icer Applicator proposed as equal must be approved by the Utah Department of Transportation prior to bid opening.
4. Warranty:
The basic warranty period of one (1) year shall start after auxiliary equipment has been installed and trucks are put into service. Basic warranty shall include agreement to allow all U.D.O.T. shops to be approved, to complete "In-house" warranty repairs, in U.D.O.T. shops. The warranty shall include parts, labor reimbursement and repetitive problems, reasonable towing and road travel cost reimbursement.

PART III: GENERAL SPECIFICATIONS

1. It is the intent of this specification to describe a Ground Speed Controlled, Slip-In (Self – Loading) Mounted, Liquid Applicator for control of snow and ice. Materials used shall be at minimum standards and of quality used commercially, conforming to current engineering and manufacturing practices. All components of the Slip-In mounted Liquid applicator shall be of proper design to safely withstand maximum stress imposed. Any attachments, accessories, tools or other components normally furnished as standard equipment and necessary to the efficient operation of the Slip-In Mounted Liquid Applicator shall be included.
2. All Fasteners shall be USA standard, stainless steel, and shall be torqued to industry standards, and/or locking devices shall be utilized to prevent equipment from working loose when the unit is in service.
3. All tubing, lines and electrical wiring shall be positioned in a protective coating or loom arrangement in order to avoid damage due to rubbing or chaffing. Wiring must have a sealed wire harness, secured to prevent chafing, and shall be color-coded or continuously numbered and be weather-tight. All connections shall be in weather-tight box(es).
4. All components needing paint, that are not stainless steel, shall be painted the manufactures standard color. Powder coat painting process is preferred.

PART IV: DETAIL SPECIFICATIONS

1. **TANK** shall be a minimum of 1800 gallons elliptical, polyethylene, leg tank capable of fitting a standard Tandem Axle Dump Truck 14' flat floor with a radius. Flat floor is 73" with a radius extending the inside sides of the body to 84".
 - 1.1 **The tank** shall be mounted on an independent four (4) legs and round bands sections made of galvanized, powder-coat steel or 304 stainless steel of which is mounted to the slip-in frame.
 - 1.2 **Polyethylene** tank shall be white or clear with UV-8 protection.
 - 1.3 **Baffles or interlocking 900 gallon tanks** to be two (2) minimum, with baffles to be internal 304 stainless steel, full baffles to prevent sloshing of fluid within the holding vessel. Baffles shall be held in place by an internal formed ridge in the center of the tank. Surge plates are not acceptable as adequate flow deterrent system.
 - 1.4 **Internal baffle balls** to be supplied to prevent forward surge of liquid in tank. The baffle balls shall be held in place by an internal formed piece and shall not use any clips, nuts or bolts. Surge plates are not acceptable as an adequate flow deterrent system. There shall be at least 96 full surge baffle balls and not take up any more room than .08 gallons. These balls are used to help with the surging of liquid in the tank.
 - 1.5 **Inspection port** on top of the tank to be 16" lid(s) with a 4" removable air cap - vent.
 - 1.6 **Sump** shall be used to load the pump or drain the tank on the bottom. The feed to the pump shall be through this sump or the lowest point on the tank.
 - 1.7 **Tank feed** shall be top and bottom fill. Any tanks without both, will not be accepted.
 - 1.8 **Level Gauge** with an indicator and scale clearly marked by embossed numbers showing tank level in gallons increments. The scale shall be of sufficient size, and located in order to be clearly visible at the rear of the unit, from the ground.
 - 1.9 Light indicator to be located in the cab of truck for product level warning.
2. **Slip-in frame** shall be channel frame with lifting eyes, all 304 stainless steel and certified by manufacturer for frame strength.
 - 2.1 **Cradle mounting** shall be five (5) minimum, made of 304 stainless steel which is mounted to a 304 stainless steel slip-in frame.
 - 2.2 **Lifting post and eyes** shall be a minimum of four (4) to remove the tank from the truck and load to storage racks. These eyes and all components must be grade 304 stainless steel.
 - 2.3 **Lifting post & eyes**, two (2) minimum front and rear constructed of 4" x 2" 304 Stainless steel tubing with 1/2" 304 stainless steel d-rings on the top of the capped tubing for lifting the unit from the dump body bed.

- 2.4 The legs shall be manufactured of 304 stainless steel 3.5" X 3.5" square tubing with 3" square tubing inserts minimum.
- 2.5 **Legs** shall be 3.5" 304 stainless steel, adjustable both at the front and rear legs.
- 2.6 **4" rollers** to be at the forward most point of the frame shall incorporate two with grease fittings. The rollers are to be used when loading the units into the dump beds. When fully loaded the rollers will set up off the bed and not take any of the loads from the tank and frame.
- 2.7 **Side rollers** to be at the front of the frame with adjustable and self-aligning rollers. These rollers are to be used to help align the sprayer in the dump body.
- 2.8 **Holding** the spray applicator in place shall by 1.5" tailgate latch pin(s) at the rear and in the front of the dump body with nylon ratchet straps to hold the front assembly down.
- 2.9 The entire skid shall be 304 stainless steel, clean and free of all burns, wire on the entire smooth surface
- 2.10 The entire surface will be able to be sprayed clean without causing damage to the mounted components
- 2.11 Ladder shall consist of slip grip strut and grip rung(s) at rear of unit or equal. The ladder shall consist of 5 steps minimum. The steps are used to inspect the interior of the tank or for loading into the 16" man way on top of the tank. The Handle shall be mounted within 13" of the top to the tank.

3. **DISTRIBUTION SYSTEM:**

- 3.1 Product pump shall be a Stainless Steel centrifugal type pump using the existing hydraulics supplied with the truck Central Hydraulic System. With the use of the sander circuit.
 - 3.2 Existing sander circuit to use selector valve to select either the operation of the Sander or the Liquid De-Icing System. The selector valve shall be mounted side of drivers seat, so the operator can change the selection on his way into the cab or this job may completed electronically by the computer supplying the readings from within the cab of the truck.
 - 3.3 Hydraulics for the pump will be controlled electronically 12 VDC via hydraulic proportional valve with a nominal flow rate.
 - 3.4 Load and unload connection will be a 2" cam-lock fitting with a plug and retainer chain conveniently located at the rear of the skid. Transfer of liquid to fill preferable at top of tank.
- 4 **Ground speed** shall be controlled via the transmission, electronically, and be capable of applying 80 gallons per lane mile application rate for a single lane.
- 4.1 It shall have the ability to cover up to 3 lanes at one time.

- 4.2 The application shall be capable at speeds varying from 5 miles per hour to 55 miles per hour.
- 5 **Spraying system** shall be capable of a 12-foot wide path through a single boom, directly behind the vehicle. The sprayer will have the ability to spray a path on either side of the truck. At 55 mph. The spray path shall be a minimum of 14' to each side of the truck. The complete unit shall be able to cover 36' when traveling at 45 mph. If two single side lane booms are on at one time, the sprayer shall be able to spray up to 12' to one side at low speeds. The booms for the side spray can be no higher than 18" off the ground to avoid spraying into vehicle windows.
- 6 **Electric valves** to open will control the spray boom(s) and close each stainless steel trunnion ball valve boom sections independently. The switching shall be done within the cab of the truck and within easy movement for the operator. The boom(s) shall be a manifold design with clean flows of 1.5" of liquid through the manifold. The valves shall open within .8 of a second. The valves shall have 1 1/4" full port outlet to the booms, quick detach motors (without use of tools) and capable of being opened and closed manually.
- 7 Electrical quick disconnects shall be just behind the cab of the truck through a Deutsche screw tight connection or equal.
- 8 **SPRAY SYSTEM** shall be capable of loading and unloading the liquid product from the truck. The process shall be done through 2" quick disconnects mounted at the rear platform protected with easy access for operator. The connections shall have caps to close off the connections when not in use.
- 8.1 The liquid product will pump at the rear of the tank through 2" glass filled polypropylene fittings and 2" clear braided or spiral reinforced hose through a 2" flow meter. The flow meter pulse reader shall in NO way come in contact with the product flow. The flow meter shall be of the Rapid Check design. Allowing to check the flow meter without disassembling the 2" plumbing connecting the flow meter. The flow meter shall be place 20" down stream from any 90° turn, thus eliminating any turbulence in the flow. The flow meter shall be a true 12-volt power source with NO step down to any lower voltage. Flow meter housing shall NOT contain any circuit boards. Through the flow meter the liquid will flow to the main manifold measuring between 10 and 150 GPM minimum.
- 8.2 Liquid product can then be distributed to either or all of the 12-volt DC electric control valves. The valves are a 1" 316 stainless steel ball style configuration in a single manifold design with the on/off drive motors aligned directly over the top of the valve. The stack manifold valves shall allow flow of the liquid directly through the center of the valve. The manifold shall be designed in such a way that additional valves may be added or stacked by simply bolting or clamping to the existing manifold.
- 8.3 The operating manifold valve shall be constructed of hardened polyethylene with replaceable double O-rings on each connection of the valve. The connections of the valve to the exterior spray hose shall be done through a 1" MNPT hairpin fitting.

- 8.4 Down stream of the control valves mounted to the manifold shall be a 2.5" pressure gauge with .25" NPT fitting. Reading the system pressure from 0 to 100 PSI for trouble shooting purposes.
 - 8.5 Center lane shall consist of a 1½ " diameter 304 stainless steel boom with a minimum of 8 stainless steel straight stream nozzles and double clip nozzle bodies.
 - 8.6 Independent right and left lane shall consist of 1½ " diameter 304 stainless steel booms with a minimum of 4 stainless steel straight stream nozzles and adjustable double clip nozzle bodies.
 - 8.7 Each boom assemble shall have a 1½" adjustable check valve attached to inlet and shall be coupled to boom valves with 1½" ID minimum hose and cam-locks.
 - 8.8 The deicing boom assembly will consist of spray Bar(s) capable of covering 12' – 36'.
 - 8.9 Boom assembly will be height adjustable from 12" to 20' off of the roadway surface preferable.
- 9 **Controls** will retrofit to existing hydraulics for the operations of sand and liquid applications. The existing console will be removed from the truck cab and the new console described below shall cover all electronic functional operations of the sanding and liquid procedures here forth described.
- 9.1 The control console shall have a easy to read dot matrix display which is capable of displaying a minimum of two channel application rates, ground speed, spread width, liquid level and time/date simultaneously. Example: Dickey John Control
 - 9.2 Control console shall contain a microprocessor and have a minimum of three control channels. One control channel will be used for application of granular material on pounds per mile or area based (pounds per square foot). Second control channel will be used for control of liquid material on a gallon per ton based on the granular application rate or gallons per mile. The third channel will be used for controlling the spinner speed and be capable of utilizing a feedback sensor to close the loop in order to maintain a desired spinner rpm and spread width.
 - 9.3 The boom switch box shall be independent of the programmable control console. These switches shall be independently programmed as to the operators need. The programming control console shall set within the confines of the cab. The switch panel may be programmed to the operator's desire. A single touch may turn on all boom(s) if desired, but yet turned off independently.
 - 9.4 Control console shall have sufficient memory capable of recording the following information and display as current run totals and season totals:
 - 9.4.1 Miles, tons and gallons spread while in automatic control mode.
 - 9.4.2 Miles, tons and gallons spread with in BLAST mode.
 - 9.4.3 Total miles tons and gallons spread in automatic control mode.
 - 9.4.4 Total miles driven while not in the automatic spreading control mode.
 - 9.4.5 Granular tons spread which were pre-wetted.

- 9.4.6 Granular tons spread without being pre-wetted.
 - 9.4.7 Liquid gallons sprayed during pre-wetting and anti icing application.
 - 9.4.8 Real time spent spreading granular, spraying liquid and use of blast button.
 - 9.4.9 Control console shall also record system information, which includes the following:
- 9.5 Control console shall have visual display of when unit is operating in application rate error, unload or blast condition, manual speed and automatic manual override condition when the vehicle is in the shop and not moving. This is to provide a trouble-shooting guide.
- 10 System will have the ability to Unload/Flush both granular and liquid materials separately or simultaneously. Unload/Flush will provide for full spreader and sprayer output.
 - 10.1 The console should not accumulate granular or liquid quantities while in unload or flush.
 - 10.2 The system will not initiate unload or flush unless vehicle ground speed is zero. After unload or flush is activated, the console will allow forward movement of vehicle but for not longer than a 10 second time period. After 10 seconds console will override unload/flush command and return to automatic control.
 - 10.3 The spinner will stop when the spreading of granular material is stopped. Spinner can be pre-set to run or be stopped when console is in the unload mode.
 - 10.4 The console will allow a programming option (blast spinner speed). This will allow for operating the spinner at a preset speed when the blast button is pressed regardless of the current position of spread width knob on remote switch module.
 - 10.5 The system if ever desired in the future, will allow the spread of granular material without spraying liquid material.
 - 10.6 The system will allow the spray of liquid material without spreading granular material. Or allow the use of both if ever desired in the future.
 - 10.7 Each of the four liquid materials programmed into the console memory will be able to be set as either gallons per mile or gallons per ton units. This will allow for the liquid channel of the console to be used in anti-icing applications and for pre-wet of granular material without the need for reprogramming.
 - 10.8 The controller will have the ability to extract data into data logging device which then can be downloaded to a PC. This data-logging device shall be able to hold up to 20 trucks before the information must be downloaded to a PC.
 - 11 Reel mounted on curbside rear, to be a spring rewind type. Complete hose reel to be removable for anti-icer. Plumbing to be 304 stainless steel construction with 50' X 1/2" high pressure hose, ball stop, and spray wand. With directional valve to remote reel. Example Hannay model N716-19-20JTR rated at 3000 psi. System shall include a hydraulically driven, 2000 psi, 4gpm minimum pressure washer with adjustable un-loader. Pressure washer hydraulic supply shall quick couple to anti-ice hydraulic supply and be manually controlled by console. Pressure washer to be easily removable for winter storage.
 - 12 **INSTALLATION** of unit shall be complete installed and ready for operation when delivered. The installation shall be done within the local area of Salt Lake City and not on the UDOT premises

PART V: DELIVERY, ACCEPTANCE AND PAYMENT

1. DELIVERY REQUIREMENTS:

- 1.1 Delivery of all equipment on the initial order shall be completed within ninety (90) days after receipt of order. Any unit(s) not delivered within this time frame may be canceled from the purchase order or, at State of Utah's option, an extension may be granted, whichever is in State of Utah's best interest.
- 1.2 If any unit is canceled for non-delivery, the needed equipment may be purchased elsewhere and the vendor may be charged any additional increase in cost and handling.
- 1.3 Unless a delivery extension is granted for acceptable reasons due to circumstances beyond the vendor's control, liquidated damages of \$20.00 will be deducted from the invoice for every working day after the expiration of the number of days shown on the purchase order until the units are delivered. This provision is not intended as a penalty but as liquidated damages.
- 1.4 Costs for all deliveries within fifty (50) miles of the Utah State Capital Building, shall be included in the unit price bid.

2. ACCEPTANCE INSPECTION: All equipment ordered with this request will be subject to acceptance inspection and performance testing upon receipt. Acceptance inspection and performance testing will not take more than five working days, weather permitting. The supplier will be notified within this time frame of any units not delivered in full compliance with the purchase order specifications. If any units are canceled for non-acceptance, the needed equipment may be purchased elsewhere and the vendor may be charged any additional increase in cost and handling.

3. TRAINING: The supplier shall provide one full day (8 Hours) minimum of training factory certified instructor(s) at a UDOT facility.

- 3.1 To included: Agenda to be supplied with successful bidder
 - 3.1.1 Operating procedures per operating manual.
 - 3.1.2 Break-in procedures
 - 3.1.3 Equipment limitations.
 - 3.1.4 Operator maintenance.
 - 3.1.5 Before operations checks and lubrication.
 - 3.1.6 Safety.
 - 3.1.7 Cold weather operations
 - 3.1.8 Welding on equipment.
 - 3.1.9 Lifting and transporting equipment.
 - 3.1.10 Instruments and controls.
 - 3.1.11 Gauge interpretation.
 - 3.1.12 Equipment operation, Do's and Don't
 - 3.1.13 Attachment operation, Do's and Don't

- 3.2 To include for mechanics' (Journeyman level) training including the following theory, trouble shooting, and test procedures for the following;
 - 3.2.1 To include: (Agenda to be supplied with successful bidder.)
 - 3.2.2 Electronics.
 - 3.2.3 Electrical.
 - 3.2.4 Hydraulics.
 - 3.2.5 Pumps
4. Manuals to be included in the bid, two (2) sets for each unit for service and operations. A plumbing schematic detailing sprayer components, part numbers and supplier and delivered with the sprayer.
5. PAYMENT: Payment will be made after the acceptance inspection has been completed and State of Utah determines that the equipment delivered meets specifications, on-site training is completed, recite of all documents, invoices, manufacture statement of origin and manuals have been received. The State may correct invoices to coincide with the bid documents and the Purchase documents. Payment will be sent via mail. WORKING DAY: A working day is defined as a calendar day, not including Saturdays, Sundays, or regularly observed state and federal holidays.

VI: WARRANTY

1. Equipment shall be warranted against all defects in material and workmanship for a period of not less than one (1) year, and shall cover 100 percent parts and labor for the unit. If manufacturer's standard warranty period exceeds one (1) year then the standard warranty period shall be in effect. The warranty shall begin on the date the unit is determined to meet specifications and is accepted into State of Utah's fleet.
2. INTENT: During the warranty period the vendor will be responsible for labor, materials, and other costs as outlined below associated with required warranty repair. It is the intent of this warranty that the Supplier performs warranty repair work. At State's option, STATE may perform minor warranty repairs to the unit at the vendor's expense.
3. MINOR WARRANTY REPAIRS: It is the intent of this warranty that the vendor performs minor warranty repairs; however, at STATE'S option, warranty repairs deemed by STATE to be minor in nature may be performed by STATE at the vendor's expense. Parts required for repairs, which are to be made by STATE, will be OEM parts and obtained from the vendor at no cost to STATE, or from any commercial source with reimbursement to STATE.
4. Labor: Labor for warranty repairs will be calculated at the composite rate for the mechanic in effect at the time of the warranty repairs. Labor rate will not exceed \$50.00 per hour. The time allowed for each repair will be determined by the manufacturer's standard time schedule. Manufacturer's time schedule shall be furnished to the receiving district with the unit at the time of delivery (if available). If a manufacturer's time schedule is not available, the actual time for repairs, as noted above, will be used.
5. Warranty Repair Claims: Warranty repairs will be accumulated on STATE repair orders and will be billed from same, unless the vendor prefers to have claims processed on their standard forms.

6. Parts: Replaced parts will be held 30 calendar days and will be available for inspection by the Supplier or authorized representative. Copies of invoices for all parts will be provided to the Supplier. The cost of parts other than those furnished to STATE at no cost by the Supplier will be billed at actual cost.
7. Billing and Payment for Warranty Repair Expenses: Costs for minor warranty repairs will be accumulated, including labor and replacement parts (if not provided). Reimbursement payment must be made within 30 calendar days of the billing date.
8. MAJOR WARRANTY REPAIRS: When major warranty repairs are required, State of Utah will notify a representative of the vendor's Utah dealer by telephone at the location and the telephone number designated by the vendor on the data sheet as the point of contact. Major warranty repair work for the purpose of this specification means major repairs to frame assembly and major repairs to any other component(s) of the unit. Diagnosis of the actual repairs required will be the responsibility of the vendor. The vendor or his authorized representative may perform the repair work.
9. Response Time: Warranty repair action shall begin within two (2) working days after notification is made to the vendor for need of warranty repairs. A representative of the vendor's Utah dealer will be notified by telephone at the location and telephone number designated by the vendor on the data sheet as the point of contact. The vendor shall notify State of Utah immediately of any changes in this location and/or telephone number. The warranty repairs should be completed and the unit returned (or picked up by State of Utah at the vendor's expense as outlined above) to State of Utah within a reasonable period of time. For the purpose of this specification eight working days is defined as a reasonable period of time. Excessive delays incurred for the performance of warranty repairs by the vendor may adversely affect the vendor's status as a qualified bidder.
10. PARTS AND SERVICE: The Successful bidder shall provide a list of parts that will be stocked locally or give written guarantees of parts delivery time and shall list field service availability for Utah. Local parts must also be available within a 24-hour turn around time.

PART VII: DATA SHEET

Example of DETAILED SPECIFICATION DATA SHEET TO BE INCLUDED

Bidders shall submit requested information below or attach a copy of your own data sheet.

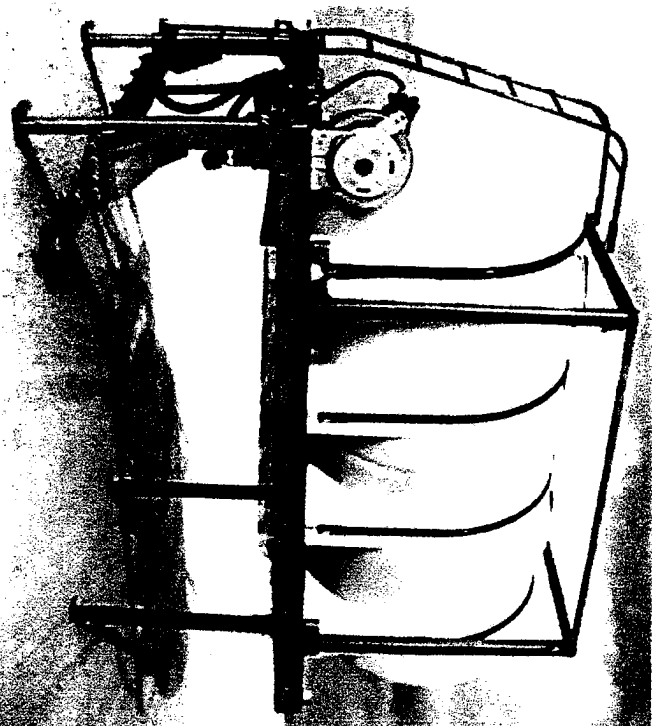
Failure to provide and comply with submitted specifications will result in bid being declared non-responsive.

	Minimum's	Comments
Manufacture of Unit	USA	HENDERSON
Dealer for Unit		SEMI SERVICE INC.
Make of Unit – Bid		HENDERSON
Model of Unit – Bid		LAS 1800 SST
1.1-Unit to be New	<	YES
1.2 – Unit Specification Included	Spec Included	PER UTAH SPEC
1.3 – Completely Assembled	Operational	YES
1.4 Environmental Considerations	2003 Standard	COMPLIES
1.5- ISO standards		
2.1- Ground speed controls	Cab	FORCE 5100 - CAB
2.2- Fasteners	Stainless Steel	
2.3- Tubing, lines & electrical	Complies	COMPLIES
2.4 Paint	Power Coat	POWDER COATED + BARE STAINLESS
3.1 Tank	1800 gallons	DUEL 900 GAL
3.1.1 Legs	Stainless Steel	COMPLIES
3.1.2 Polyethylene tank	UV-8	COMPLIES
3.1.3 Baffles	2- stainless	BALL'S
3.1.3.1 Baffles form ridge	Complies	COMPLIES
3.1.3.2 Baffle balls	Complies	BALLS
3.1.4 Inspection port	16" lid	16" LID
3.1.5 Sump	Complies	COMPLIES
3.1.6 Tank feed	Top & bottom	COMPLIES
3.1.7 Level gauge	Complies	COMPLIES
3.1.7.1 light indicator in cab	Complies	COMPLIES
3.2 Slip in Frame	Complies	
3.2.1 Cradle mounting	5	COMPLIES
3.2.2 Lifting post & eyes	4	COMPLIES
3.2.2.1 Front lifting post	4X2 stainless	COMPLIES
3.2.2.2 rear lifting post	4X4/3.5 stainless	COMPLIES
3.2.3 legs	3.5 stainless	COMPLIES
3.2.4 Rollers	4"	COMPLIES
3.2.4.1 Side roller	Self-aligning adjustable	COMPLIES
3.2.5 Rear frame	Complies	COMPLIES
3.2.6 Latch Pins	1.5" pins	COMPLIES
3.2.7 Clean free	Complies	COMPLIES
3.2.9 Ladder	Complies	COMPLIES
3.2.9.1 Handel	Complies	COMPLIES
3.3.1 Pump	Centrifual	COMPLIES
3.3.2 Selector valve	In Cab	COMPLIES



LAS - Liquid Application System

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Henderson's liquid application system can be used for more than just snow and ice prevention. The Henderson LAS can be used for Anti-icing, De-icing, Dust Control, Weed Control, Water Transporting, Plant Watering, Soil Stabilization and Fire Control. You can have it all with just one unit from ...

The Dependable Ones

The LAS has the following features:

- One, two, or three lane applications
- Slips easily into a dump body with the help of front and side wheel glides
- Glass filled polypropylene fittings for good resistance to corrosion and impact
- Manifold style fittings for ease of service
- Clip-on nozzle bodies
- Powder coated mild steel or 304 stainless steel models.

Poly Tank Options: <ul style="list-style-type: none"> • 1800 gallon 1635 gallon • 1235 gallon and 925 gallon • Other tanks are available upon request 	Optional Equipment: <ul style="list-style-type: none"> • "W" tie ball baffles • Self loading leg kits • Hose reels • Chassis mounts • High and low pressure wash systems • Several tank sizes • Lift and tie down frame, available in mild steel or
Boom Options: <ul style="list-style-type: none"> • Single Boom • Dual Boom • Variable Orifice Nozzles 	Pump Options: <ul style="list-style-type: none"> • 304 stainless steel • Liquid level sensor • High / Low Pressure • High / Low Volume • Cast Steel • Cast Stainless Steel • Poly / Nylon